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DISEASES OF THE NERVOUS SYSTEM

A PRACTICAL JOURNAL ON PSYCHIATRY AND NEUROLOGY

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DISEASES of the NERVOUS SYSTEM
(PUBLISHED MONTHLY)

A PRACTICAL JOURNAL ON PSYCHIATRY AND NEUROLOGY

Review of Some Fundamental Considerations In Psychotherapy

ALAN FRANK
New York, New York

In recent years increasing attention has been paid to the problem of relating psychological and physiological phenomena. The purpose of this paper is a discussion of some of the literature on the experimental production of neurosis in animals, and the relating of this material to human behavior to show the many similarities between animal and human neurosis, and to discuss some of the implications of neuroses and functional disorders.

No attempt will be made to determine the relevance of animal experimentation to human problems. The similarity of results obtained from comparable experimental procedures is sufficient to warrant the assumption that the neurotic behavior as observed in animals is the counterpart of that observed in man. Animal experimentation is used here as a means of investigating and establishing as objectively as possible the nature of neurosis.

To produce neurotic behavior in an animal it is necessary to present the animal with a situation in which it will experience two or more conflicting drives. The technique used by Masserman[1] in the study of experimental neurosis in cats was to train them to feed

> ". . . at a sound and/or light signal, thus establishing a simple or compound sensory symbolism which regularly initiated goal-directed behavior. Animals so trained readily entered the conditioning cage, resisted removal, and showed no adverse reaction to any of the training procedures."

Having thus "tagged" the segment of behavior for study, the conflicting drive was then evoked:

> "The animal was permitted to open the feed-box on signal but was then subjected to a physically harmless but apparently fear-inspiring air-blast across the box at the moment of food-taking. One or two repetitions of the procedure apparently engendered a motivational conflict (fear versus hunger) of sufficient intensity to produce an 'experimental neurosis'. . ."

The symptoms were typical of chronic anxiety and phobic responses as reported for other animals[2,3] and for man,[4,5,6,7] and included:

1. Restlessness.
2. Trembling.
3. Hiding.
4. Marked startle response to minor stimuli.
5. Disturbances of pulse and respiration.
6. Aggression toward other animals.
7. Excessive licking and cleaning.
8. Desperate attempts to escape upon further feeding signals.
9. Fixed, and ritualistic behavior in conflict situations.

No neurotic behavior was elicited by simple frustration of the feeding response, the cats merely learning to ignore the feeding signals.

The animal was found to maintain its neurotic behavior patterns indefinitely. Periods of rest from the precipitating situation will produce an unstable recovery which breaks down immediately upon repetition of the conflict situation. Diminution of the intensity of the conflicting drives will also diminish the anxiety and phobic reactions, but the original neurotic behavior in the conflict situation remains a part of the animal's behavior in any repetition of the original situation, or any situation which to the animal characterizes the original situation.

Therapy, however, will produce positive results in dissipating the neurosis thus developed. Four methods were used: the first involved gentle handling by a trusted individual and patient retraining to take food from the food-box. Under these conditions the cat gradually resumed normal feeding responses on signal and, despite residual neurotic behavior, the anxiety, phobic and regressive reactions gradually disappeared. This technique was found ineffectual if the animal distrusted or feared the experimenter. The second method was to force the animal by environmental manipulation to approach the food-box filled with especially desirable food when the hunger drive was at its maximum. In most cases the inhibition was suddenly overcome and eating from the food-box ensued. Once this normal adaptive response broke through, the phobic responses disappeared, and food, signal, and even the air-blast in some instances, became an eagerly awaited signal for feeding. The third method employed was to place the neurotic cat in the experimental situation with a second trained but normal animal. The neurotic animal in this case would gradually join in the normal feeding behavior, but here the neurotic symptoms were only slowly overcome and normal responses never became so completely re-established.

Significantly, in the case of cats trained to operate their own feeding signals to which the air-blast was later added, the expected neurotic patterns were quickly established, but as they became more and more hungry they would again begin to work the signals and take the food reward with increasing confidence despite repetitions of the air-blast, until, through trial activity at optimum moments of their own selection, they had spontaneously resolved their motivational conflicts and dissipated the neurosis.

Upon analysis it will be seen that the cat is responding positively to a feeding symbol which is atypical but not abnormal for the cat. If a negative stimulus in the form of the air-blast is now introduced just as the cat is responding to the food signal, the two drives will form an environmental complex which is perceived by the animal as an irreconcilable conflict since the stimuli are both biologically meaningful. No abnormal behavior was elicited by other experiments in which the conflict situation was not meaningful. The animal is faced with a situation for which it has no direct pattern of adjustment, no insight, and no alternative behavior pattern, and it therefore develops the "neurotic" behavior of the organism which is unable to cope with its conception of the environment.

In cases of human anxiety and neurosis the same psychological and physiological mechanisms are found to be involved: the patient is confronted with an apparently irreconcilable conflict into which he has little or no insight, as Cameron has pointed out. However, the emphasis on rational and symbolic thinking processes in man infinitely complicates the psychological picture so that we are faced not only with the relatively simple and direct type of conflict seen in the experimental neurotic animal, but also with the maze of intra- and interpersonal conflicts to which man is capable of reacting.

In man, Masserman[1] has defined anxiety as

> ". . . a feeling of diffuse, unformulated uneasiness and apprehension which is usually reflected "psychosomatically" in a characteristic combination of visceromotor disturbances and skeletal tensions known as the *anxiety syndrome*. Subjective *anxiety* differs from *fear* in that the former is not referable to specific objects or events . . . but rather to irrational dread of situations that covertly symbolize unconscious conflicts."

The symptoms of the anxiety syndrome as

reported by Masserman include palpitation, disturbed respiration, global sensations in the chest or throat, flushing, sweating, and tremulous weakness accompanied subjectively by a diffuse, unformulated but intense and obsessive apprehension. Cameron includes a much more detailed list of symptoms which he groups into three categories: skeletal muscle involvement, smooth muscle involvement, and a mixed group. Common to the majority of all cases observed by him was a simple increase in muscular tension. Tables of symptoms compiled by Cameron follow:

TABLE I. *Simple Increase in Tension.*

1. Increased tenden reflexes.
2. Occasional transitory knee and ankle clonus.
3. Tremor:
   2. Hands.
   b. Closed eyelids.
   c. Knees.
   d. Internal.

TABLE II. *Skeletal Muscle Pattern: Simple Derivatives.*

1. Fatigue.
2. Weakness.
3. Stiffness.
   a. Face.
   b. Hands.
   c. Neck.
   d. General.
4. Drawing sensations.
5. Aching:
   a. Neck.
   b. Head.
6. Head pressure.
7. Head constricture.

TABLE III. *Skeletal Muscle Patterns: Complex Derivatives.*

1. Clumsiness of hands.
2. Clumsiness of feet.
3. Falling dreams.
4. Jerking limbs on going to sleep.
5. Facial tics.
6. Unsteadiness of voice.
7. Stuttering.
8. Tightening of throat.
9. "Weaving."
10. Inability to move.
11. Clicking and ringing in ears.
12. Blurring of vision.
13. Teeth grinding.

TABLE IV. *Cardiovascular.*

1. Precordial pressure.
2. Precordial pain.
3. Precordial pain passing into back.
4. Precordial pain passing down left arm.
5. Palpitation.
6. Flushing.
7. Throbbing in neck and head or whole body.
8. Hot sensations.
9. Heaviness of heart.
10. Constriction of veins.
11. Fast pulse.
12. High blood pressure.

TABLE V. *Gastro-intestinal.*

1. Nausea.
2. Anorexia.
3. Gas.
4. Vomiting.
5. Dry mouth.
6. Diarrhea.
7. Borborygmy.
8. Epigastric sensations.
9. Weight loss.
10. Sinking feelings.
11. Emptiness.
12. Heart burn.
13. Cramps.
14. Bad taste in mouth.

TABLE VI. *Higher Level Complaints.*

1. Anxiety and apprehension.
2. Irritability.
3. Unreality feelings.
4. Confusion.
5. Fears: "Losing one's mind." "Dying." "Brain Disease."

The juxtaposition of symptoms of the neurotic cat and of neurosis in man shows a basic similarity of pattern despite the greater variety and richness of symptoms displayed by man. It may be concluded therefore that these symptoms express a primary response of the organism to the perception of an irreconcilable conflict. If the following discussion leans heavily toward the experimental work with cats it is merely for purposes of convenience.

In the experimental work with cats the negative stimulus used was one which caused fear reactions, but the reactions from the total conflict situation were observed to be more intense and far more permanent than fear as it is observed in response to a simple fear-evoking situation. From the animal's inability to handle this environmental conflict situation effectively we may postulate that the cat's behavior is an attempt to overcome its helplessness and inadequacy in the face of an apparently catastrophic threat to its existence. Viewing behavior as an expression and resolution of the internal needs of the organism and the demands of the environment, Masserman[3] has stated that it is apparent that behavior is adaptive to the organism even when it appears abnormal or neurotic. The neurotic behavior of the cat following the experiment is a continuation of its behavior in the conflict situation because the cat has not been allowed to abreact to, or gain insight into, or achieve an escape from or resolution of the conflict itself. Since there is no insight into the cause of the conflict and therefore no assurance that it will not recur at any moment, the animal must maintain a state of continued readiness to deal with the situation in the future.

In terms of the psychobiological needs of the organism the feeling of helplessness in the face of the conflict situation is incompatible with its survival, and it must respond in a fashion designed to eliminate the conflict situation either by running from it,

or else by overcoming it with aggression. The choice between the two is immaterial for this discussion, but it must be made in terms of the normal body structure and function of the organism, as Gesell[8] has pointed out. It must utilize the modes of reaction which are inherent in and characteristic of its own soma.

The reaction which is observed in neurotic cats is one of intense fear and anxiety brought about by generations of adaptive behavior in situations potentially dangerous to the cat, but in this artificial situation the adaptive changes in the "internal environment" do not have the adaptive or survival value they would have in the wild state. This fear and anxiety are expressed somatically by the release of adrenin, a rise in blood sugar, and circulatory and respiratory changes, all designed to ready the animal for great physical exertion. "These visceral changes," Cannon stated,[2]

> ". . . the cessation of process in the alimentary canal (thus freeing the energy supply for other parts); the shifting of blood from the abdominal organs, whose activities are deferable, to the organs immediately essential to muscular exertion (the lungs, the heart, the central nervous system); the increased vigor of contraction of the heart; the quick mobilization of energy-giving sugar in the circulation—every one of these visceral changes is *directly serviceable in making the organism more effective in the violent display of energy which fear or rage or pain may involve.*"

These changes[11]

> ". . . which occur in emotional turmoil might, at first glance be regarded as gross disturbances of homeostasis. So they would be, by themselves; but they can be explained, I believe, only as preparatory for extreme muscular exertion. If that takes place, the changes . . . at once become useful and are promptly counteracted by the effects of exertion itself."

Because of the essential nature of the conflict—that it exists in the *perceptual set* of the organism, the animal is continuously exposed to it and therefore is continuously reacting to it. This maintenance of a constant readiness for fight-or-flight demands a constant psychological and physiological orientation to the conflict which places a severe burden upon the efficiency of the organism. In man the feed-back circuit can impose sufficient strain, both psychological and physiological, to break down the normal functioning of the organism and produce "functional disorders" of the various physiological systems.

A multitude of theories have been advanced to explain the origin and nature of the energy in-put in this feed-back circuit, and why it is that organic pathology develops from anxiety states, and why apparently similar states may give rise to quite different pathology. An example is seen in Alexander's[4] study of gastro-intestinal disturbances in which he expresses the belief that anxiety cases suffering from peptic ulcer may invest the gastro-intestinal tract with a symbolic meaning and use this symbolic meaning to express their psychological needs in the "tacit physiologic language of the stomach functions." Freeman and Watts[9] have expressed this idea in somewhat different terms as "consciousness of self."

Returning for a moment to the definition of anxiety, Martin[10] in a recent paper defines the human anxiety that leads to anxiety phenomena as the

> ". . . emotion that inevitably accompanies *emerging* conflicting trends or feelings; in other words, the emotion that inevitably accompanies the imminent awareness of inner conflict."

He goes on to say that

> "These emotions *per se* are not responsible for bodily disorders or dysfunction. . . . The body is equipped to develop and express rage, resentment, fear, grief, etc., and when these emotions are intense and find expression we get an exaggerated physiological picture. It is when a strong conflict occurs over the expression of these emotions that we get a pathological condition.
>
> "Because dilemma anxiety is so intolerable, the total personality consciously and unconsciously uses every means in its power to solve it or find some compromise."

As with the neurotic cats, the various phobias are not the cause of the anxiety, but represent the situations or objects which bring the conflict into sharper focus in the awareness of the organism.

Bodily participation in anxiety is of two kinds according to Martin: It is, on the one

hand, the bodily phenomena that accompany anxiety, and on the other, the body's participation in the solution of, or compromise with the conflict or dilemma. The extent to which the body participates in the latter then becomes a function of the "body awareness" of the individual; that is, if the individual has learned to be aware of his body as a means of expression, the body then becomes an outlet for relieving the subjective symptoms of anxiety, and body participation becomes an insurance against the more serious inaccessible psychoses.

Functional disorders of the various physiological systems as found in the neurotic personality represent to the individual a means of making peace with himself. He has in effect circuscribed his neurotic responses and limited them in such a fashion that he is no longer forced to turn his entire attention to them but is able to allot them a restricted area of activity. This may be regarded as an economy measure on the part of the organism: by pushing the burden of the neurotic physiological orientation off on one segment of its activities the remainder is more or less freed for normal activities, thus also abating and redirecting the psychological pressure of the neurosis.

This is of great importance in the treatment of functional disorders for it is obvious that they are an integral part of the neurotic patient's psychophysical adjustment to life. It is of little therapeutic value to merely remove a portion of that adjustment, namely, the physical symptoms which for the normal individual would be a handicap, because it leaves the patient saddled with the original conflict which evoked the symptoms. Functional disorders are adaptive for the neurotic personality, and for that reason successful treatment of the neurotic personality must include reorientation of the personality to seek and find satisfactions in other forms of behavior. This task is made particularly difficult by social acceptance of physical illness and by the real psychological need of the neurotic personality for his symptoms.

Summary

The genesis and expression of neurotic behavior has been discussed to show its relation to the physiological functions of the normal organism. An analysis of anxiety neurosis in the cat and in man shows basic similarities in pattern but also essential differences, among which are: 1. Man's use of ideational processes and material in conflicts; 2. Man's use of bodily participation in the solution of, or compromise with the conflict. The origin of this bodily participation appears to be found in the "body awareness" of the individual. Bodily participation thus becomes the basis for functional disorders of the various physiological systems which then form an integral part of the individual's adjustment to the life situations.

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Atropine Premedication in Electro Shock Therapy

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In the course of administering electric shock therapy to many hundreds of psychotic veterans we have noted excessive mucus production and sialorrhea to be a persistently troublesome and potentially dangerous complication. During the electrically induced seizure there are no true respiratory excursions; and the apnea of the convulsive state persists a variable period of time into the post convulsive coma phase. Most shock therapists have noticed that during this post shock apnea there is, almost invariably, accumulation of saliva in the mouth, nose and pharynx which appears to retard the resumption of normal respiration. Because of the excess saliva and mucus the patient must perforce repeatedly swallow before respiration is resumed. Under such conditions respiration is irregular, shallow and moist until the air-way becomes cleared and regular rhythmic breathing is instituted. At such a stage, with the gag and cough reflex abolished and relaxation of smooth and voluntary musculature of the respiratory tract, there is danger of aspiration and subsequent pulmonary infection.

Frequently the saliva and mucus which is produced is of thin consistency and it often exudes from the nose and mouth to flow back over the face and into the eyes of the hyperextended head and occasionally the sudden expulsion of mucus and saliva bespatters attending personnel. While this is of no particular pathologic threat or bearing on the effectiveness of treatment, it does add another unesthetic quality to a procedure which is at best already unpleasant to witness.

Only a few articles in the recent literature refer to sialorrhea and mention its role in respiratory complications of shock therapy. Wooley,[1] in his study of the respiratory and circulatory phenomena encountered with E.S.T. refers to the over secretion of mucus and saliva as one factor producing "marked interference with respiration." Lowinger and Huddleson[2] state that lung abscesses consequent to accidents of respiration may occur oftener than expected in shock therapy, and Feldman, Susselman and Barrera[3] recommend the use of the prone position with the patient lying on his abdomen in combined insulin and electric shock therapy to avoid the aspiration of mucus and saliva.

To overcome these complications encountered in shock treatment we have attempted to suppress the free flow of mucus and saliva by the administration of atropine. The drying action of this drug on the glandular secretions of nose, pharynx and bronchi is well known and is thoroughly discussed in any standard text book of pharmacology. It is of interest to note that in usual doses atropine exerts a mild stimulatory effect on the respiratory centers in the medulla.[4] It is unlikely, however, that this effect is operative in our cases for the apnea itself constitutes an adequate stimulus to the respiration and retarded breathing is not for lack of stimulus (acapnea) but, in part at least, because of tetanic contracture of chest and abdominal muscles and later because of bronchorrhea and sialorrhea which partially occlude the air ways. Theoretically, atropine's parasympatholytic action would be useful to prevent certain cardiac complications in patients with supraventricular arrhythmias but we know of no studies that have confirmed this and insufficient cases to make any observation on our own.

Eighty patients were selected at random for study. For the first three shock treatments no atropine premedication was given to any patient so that an untreated control

*From the Mental Hygiene Service of the Veterans Administration, Regional Office, 252 Seventh Ave., New York, N. Y. Clinical studies were conducted at the Veterans Hospital, Lyons, N. J.

state could be observed for later comparison. The degree of salivation was recorded in each case according to arbitrary standards discussed more fully below. Atropine sulfate in doses ranging from .0008 gram to .0004 gram were given hypodermically about one-half hour before shock treatment and the effect was observed and classified. Each patient received from one to seven administrations of atropine at indefinitely spaced intervals in the course of his treatment so that finally the drug had been given and results noted for a total of 261 instances. In two cases of curare-modified shock there were no remarkable deviations from the regular sequence of events ordinarily anticipated with the use of curare, except that the customary accumulation of mucus was absent. The atropine did not in any way affect the grand mal reaction nor the psychiatric result of E.S.T. No toxic side effects were observed.

The results obtained were tabulated and summarized as in the accompanying table. Because the observations did not lend themselves readily to quantitative measurement, the following arbitrary definitions were formulated and the results tabulated accordingly:

No Effect—Supression of mucus production not sufficient to eliminate at least the last four grades of salivation. (See below.)

Improved—Moisture still present in upper respiratory tract, but no transitional difficulty. Patient may swallow once before the onset of regular respiration.

Dry—No moisture present. Smooth uninterrupted transition from apnea to respiration.

Degrees of Salivation:

0—Dry: little or no mucus or saliva production.

1—Mucus present but not interfering with resumption of rhythmic respiration.

2—Regular breathing after one or two swallows.

3—Gurgling, spluttering and coughing, and repeated swallowing.

4—Irregular shallow respiration together with findings of Number 3.

5—Same as Number 4, and in addition either prolonged apnea with cyanosis until forceful expulsion of mucoid material, or mucoid production runs onto the face.

Discussion

Over 86% of the patients we studied consistently produced enough mucus and saliva during and following the shock treatment to interfere materially in varying degrees with return of rhythmic respiration. In all but one case there was sialorrhea, and presumably bronchorrhea. (Table I.)

As may be seen from Table II, 85% of the patients showed improvement (smoother transition to rhythmic respiration), with .004 gram of atropine. All the patients who were premedicated with .006 gram and .008 gram were considered either improved (moisture present, brief apnea and smooth transition to normal breathing) or entirely dry after premedication.

The overall picture revealed that in 35 cases .0004grams were used; 192 cases, .0006 grams, and 74 cases, .0008 grams, 60.9% of the entire group were classified as "dry," 37.14% as "improved," and in less than 2% was there "no effect."

TABLE I.

Degree of Sialorrhea

Degree		Observed Treatments Not Premedicated
0.	Dry, little or no mucus	1
1.	Mucus present, but regular rhythmic breathing.	3
2.	Respiration resumed after one or two swallows.	7
3.	Coughing, gurgling, repeated swallowing.	19
4.	Foregoing together with longer apnea and irregular shallow respiration.	22
5.	Foregoing with prolonged apnea,	28
	Total non-premedicated treatments	80

TABLE II.

.0008 Gm. 34 Treatments			.0006 Gm. 192 Treatments			.0004 Gm. 35 Treatments		
No Effect	Improved	Dry	No Effect	Improved	Dry	No Effect	Improved	Dry
0	1	33	0	85	107	5	11	19
0%	2.9%	97.1%	0%	44.3%	55.7%	14.2%	31.4%	54.4%

In one of our patients (R.F.) atropine was administered for the second and last time on October 20, 1945. He received eight treatments thereafter, the last on November 15, 1945. Salivation of Grade 5 was recorded in all instances where the patient did not receive atropine. On November 16, the patient suddenly developed an elevated temperature (104.4 degrees) with symptoms referable to the chest. X-ray examination on November 17 revealed the presence of a pneumonitis of the left infraclavicular area which on 3 December revealed itself on X-ray as a pulmonary abscess about .5 cm in diameter. The patient is still under treatment (June 1, '46) and the cause ascribed to probable aspiration as a result of electric shock therapy. Inasmuch as most abscesses of aspiration etiology reveal themselves within two weeks, it would appear reasonable that this patient incurred his abscess as a result of one of the last eight treatments. It is worth speculating whether or not the continued use of atropine in this individual might have prevented the occurrence of this not unusual complication.

It appears that through its drying action and possibly through its stimulating effects on the respiratory center, atropine may be a useful drug in lessening the hazard of pulmonary complications of E.S.T. and its employment in selected cases may provide a simple, safe, yet effective prophylaxis against danger of aspiration. For the sake of expediency all of our patients were premedicated by hypodermic administration of atropine. It is likely that the results would be comparable following oral administration.

Summary

1. The majority of patients receiving electric shock therapy show a marked increase of mucus production of the respiratory tract and sialorrhea as a direct result of the treatment.

2. This mucus production may:

(a) Interfere in varying degree with the smooth resumption of rhythmic respiration following the period of apnea; or

(b) Expose the patient as a candidate for pulmonary pathology as a result of aspiration.

3. Atropine sulphate in doses of .0008 gram (1/75 grain), .0006 gram (1/100 grain), and .0004 gram (1/150 grain) was administered in 261 instances to 80 patients receiving electric shock treatment and the observations recorded.

4. The statistical results obtained are discussed and the data shows that atropine sulphate effectively suppresses excessive mucus and saliva production in patients receiving electric shock therapy.

5. The use of atropine sulphate is recommended in selected cases as a prophylaxis against aspiration complication of electro shock therapy.

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Prefrontal Lobotomy in the Treatment of Schizophrenia

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Ever since Egas Moniz and Almeida Lima[1] reported their technique and results of prefrontal lobotomy in 1936, increasing attention has been paid to this modern development of psychosurgery. The constant accumulation of material on the subject furnishes strong evidence that brain surgery as a treatment procedure for selected, chronic psychoses is now a reality.

In 1937 Freeman and Watts[2] introduced this procedure and technic into the United States. Operative mortality, as revealed in their latest report of 331 cases[3] of various types, is less than 3 per cent. The operation cuts across the pathways connecting the thalamus with the frontal poles. As a result, the nucleus medialis dorsalis of the thalamus degenerates and there is some atrophy of the frontal pole. This seems to accomplish the divorce between ideation and affect thru "bleaching of the affect." Consequently, although delusions concerning guilt, persecution and bodily disease may continue for awhile, the impact of these ideas is reduced or eliminated, and the patient can turn his attention outward, unhampered by feelings of distressing self-consciousness. The post-operative reeducation and rehabilitation of patients subjected to this operation are of the utmost importance and must be energetically carried out.

The chief criterion for prefrontal lobotomy is not any certain psychiatric diagnosis, but rather a certain syndrome or constellation of symptoms which add up to psychic tension. These are seen in the individual whose emotions are largely concerned with himself. The most favorable results are obtained in obsessive tension states, in hypochondriasis, intractable psychosomatic conditions, and in agitated depressions. Less satisfactory results are obtained in those schizophrenics who present numerous problems that are difficult of solution. However, with every review of the schizophrenic patients undergoing operation, the results are more encouraging. Prefrontal lobotomy is of particular value in modifying the disturbed behavior of the chronically overactive schizophrenic. When a thorough trial of conservative and semi-drastic measures has proved to be of little or no benefit, he becomes a suitable subject for this operation.

Among the twenty cases of psychoses originally reported by Moniz and Lima, there were seven with schizophrenia, two of which showed amelioration but 5 were unimproved after the operation. Strecker, Palmer and Grant,[4] in May, 1941, found various grades of improvement in five chronic schizophrenics who had this operation in 1939 and 1940. Dr. Strecker stated that, in his opinion, at least a year must elapse after the surgery before preliminary judgment is made as to results, in order for the necessary brain tissue adjustment to take place.

Petersen and Buchstein[5] reported on 25 chronic schizophrenics treated surgically in 1941 at Willmar State Hospital, Minnesota. One attained a social adjustment, eleven were markedly improved, and one died, while eating, on the eleventh post-operative day. The improvements favored the hebephrenic group. Bennett, Keegan, and Wilbur[6] reported, in 1943, that prefrontal lobotomy effected good social recovery in four cases of aggressive paranoid schizophrenics, but no improvement in one case of the catatonic type. Heilbrunn and Hletko,[7] of Chicago, obtained insignificant amelioration of symptoms in two and no improvement in eight of ten chronically disturbed schizophrenics. Two of their patients died five days after the operation and one developed convulsive seizures two months afterwards. On the basis of this experience, these authors do not recommend frontal leucotomy as a therapeutic procedure in chronic schizophrenia. Of five schizophrenics operated upon by Lyerly[8] of Duke University in 1944, three improved and one returned to work.

Berliner, Beveridge, Mayer-Gross and

Moore,[9] reported from Crichton Royal, Dumfries, Scotland, that in 88 prefrontal leucotomies done on chronic schizophrenics, 24 recovered and were living at home, 13 were decidedly improved and only 11 failed to show any improvement. Their best results in the schizophrenic group were obtained in the catatonics, divided equally between males and females. These workers assert that they are convinced that the indication for operation in chronic schizophrenia has been established.

Hofstatter, Busch, Clancy and Smolik[10] analyzed their results of 100 cases of chronic mental illness treated surgically at the St. Louis City Sanitarium, in Sept. 1945. Sixty-six patients were schizophrenics. Of these 27% showed much improvement, 36% were improved and 30% showed little or no improvement. The poorest results were with the hebephrenics, and the best in the paranoid state.

Our own interest in the subject of prefrontal lobotomy, at the Colorado Springs Psychopathic Hospital, has recently been renewed after study of a patient on whom the operation had been performed. The patient, a 28 year old married woman, was admitted to the Colorado Springs Psychopathic Hospital March 1945 with complaints of restlessness, nightmares, bewilderment, staring expression, slowness in talking, and being disturbed over reading a book. Her mother carried temper tantrums into her adult life and eventually developed schizophrenia, for which she received insulin treatments at the Colorado Psychopathic Hospital.

During her childhood, the patient's family was frequently moving from place to place, by reason of the father's work as a mechanical engineer. The child was frequently left alone until after midnight, while the mother attended dances, even though her husband was out of town. About half of the time, the patient was sent to live with her maternal grandmother, who granted her every whim. The girl also lived with various other relatives and went to numerous schools, mostly boarding schools. Her family carefully selected her girl friends and boy friends. She finished one year at college and at 23, against the wishes of her parents, married a man 6 years her senior. A year later, a daughter was born. The patient's husband noted that she was exceedingly emotional, easily offended, very precise and very immaculate. She was superficial in her reading. She was described as "nervous and stubborn," but truthful and loyal.

In May 1942, falling off a horse, she was unconscious for three days. Blood was found in the spinal fluid and X-rays showed a basilar skull fracture. During 8 weeks in a hospital, she spoke of "spies" and lost weight and strength. In another month she slowly recovered, but showed her previous instability. She began to believe that her marriage was going on the rocks. Her previous tendency to be dramatic and indulge in crying spells became more pronounced. She sent voluminous notes to Dr. Charles Rymer, of Denver, saying that she "wanted her husband straightened out." Dr. Rymer gave her insulin shock treatment and therapy baths for 4 months. For awhile, she had disturbing dreams and thought that her cigarettes were "doped." She left Denver in May 1943 and adjusted fairly well at home until January 1945. The she began to have nightmares. A physician gave her some pituitary injections for a menstrual difficulty. She began staying up most of the night reading. She was restless and definitely disturbed and bewildered. One day she left home and was found walking in a local park. She was brought to the hospital by the family physician.

Complete physical examination, with particular attention to the neurological features, showed only moderately increased inflexes, cold and slightly damp hands and feet and a slight degree of dehydration. The laboratory reported that routine urinalysis, complete blood counts and blood Kahn were all normal or negative. The chief mental deviations noted during her first week were: sudden bursts of disturbing conduct in which she would become very impulsive, fighting the attendants, throwing her trays to the floor and beating a hole in the plaster wall. At times, she would keep her eyes and mouth tightly closed, refusing to open

them when requested to do so. She told of hearing "gentle voices." Many remarks had a religious coloring. She was retarded and inaccurate in her answers to questions regarding historical dates and simple calculations. She seemed completely disoriented, showed faulty memory and insisted that numerous attempts had been made to persecute her. She asserted that her room was filled with "gas" and stated that she could smell it. The patient was completely lacking in insight and would usually speak in an affected, dramatic fashion. My provisional diagnosis was that this was schizophrenia, with mixed catatonic and paranoid features. Later, the patient would unexpectedly tear off her clothes and then would rave about how much she loved her husband. The nurses observed her masturbating. Her conversation showed incoherency and a failure to reach the goal idea. There was blocking in the thought processes.

During the first two months, treatment consisted of sedatives, supplementary vitamins by mouth, large doses of thiamin hydrochloride by intramuscular injection, psychotherapy, narcosynthesis, prolonged tub baths, and routine nursing and custodial care. At times she showed improvement but would relapse quickly. In May 1945 she was seen by Dr. C. S. Bluemel of Denver, who noted her self-consciousness, vanity, dramatizing, posturizing, and attitudinizing. He diagnosed schizophrenia, catatonic type and recommended electroshock convulsive therapy. Accordingly, she received a total of 15 major seizures after which she became more manageable, but was still far from reality. Within month, she again lapsed into destructive behavior and was probably again hallucinated. In view of the history of the head injury a spinal air injection was suggested, even though the apparent roots of her illness antedated the skull trauma by many years. Her husband, however, elected to transfer her to the Henry Phipps Psychiatric Clinic in October 1945. After careful study and consideration prefrontal leucotomy was performed by the late Dr. Walter E. Dandy on Feb. 15, 1946. The following is a copy of his operative note:

> "Openings were made about ½ cm. in front of the frontal suture and with the straight staphylorraphy, the brain was sectioned slowly and carefully throughout the depths. This is our first case. There was no bleeding."

Dr. Milton Layden, house physician, in charge of the patient at the Clinic, sent me a report as to her status on May 4, 1946, stating that the patient showed early postoperative resistiveness which made her condition unpredictable. She was also irascible after a denial. In contrast to her previous combativeness, however, she would quiet down in a few minutes acting quite pleasant, as though nothing had happened. She later became comfortable and happy and showed definite improvement form the stadpoint of manageability.

The patient was discharged from Phipps Clinic on June 12, 1946 to the custody of her husband and father. She showed stubborn and disturbing behavior and was therefore readmitted to the Colorado Spring Psychopathic Hospital on June 14, 1946. For several weeks, she threw trays on the floor, was sarcastic and haughty and spoke of being "influenced" by a "machine" at John Hopkins. There was urinary incontinence on several occasions. Nevertheless, she was much more tractable than during her previous admission. Her own explanation as to how she had been helped by the operation was interesting. Without coaching she stated that the "tension" in her head had been relieved.

At the present time, she lacks initiative and spontaneity, although occasionally she is the first to say "Good Morning." Her attention is not maintained. When instructed about doing something, she has to have it repeated from day to day; e.g., making her bed, tidying up her room or working on projects in the occupational therapy department. She answers pleasantly when spoken to, but then looks away or allows her head to drop and seems indifferent. She is no longer antisocial and the destructive, aggressive and disturbing behavior has disappeared. She is, however, for the most

part, asocial, but she takes more care with her personal appearance.

Anything requiring calculating is puzzling to her. She is very slow with simple arithmetic problems. Remote memory is good but she cannot reverse 5 digits. She is no longer hallucinated or delusional and is well oriented in all spheres. Her judgment is poor and insight is only partial. Except for transient smiles, she seems rather flat emotionally. However, our patient, we think, has been definitely helped by her prefrontal lobotomy of one year ago. She is more manageable in that she adapts herself better to institutional environment.

It is my conclusion that, with refined technique, prefrontal lobotomy, by severing the thalamo-frontal radiation, may, in a high percentage of cases, strike a vital blow at the emotional component which tends to keep some schizophrenic psychoses alive. At the same time, the incisions leave a sufficient amount of the frontal lobes intact so that they retain the functions which permit the patient to make a more satisfactory environment adjustment.

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Reflections on The State of Psychiatry in the Realm of Medicine*

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It is rumored along "grapevine" channels that psychiatry may come before the bar of medical justice pleading for a divorce from her therapeutically impotent spouse, clinical neurology, whose prestige has dwindled, and whose clients are deserting in droves for the neurosurgeons. The neurologist, like an old Shakespearean actor, is eclipsed by the gaudy and seductive trappings of productions in technicolor embellished by Brazilian rumbas. My remarks are not to mourn the retirement and demise of this grand old fellow, but to praise his good works, and to beg that we accept his heritage with graciousness. The intellectual discipline of neurology can benefit the psychiatrist and nudge him to pay more reverence to that forgotten organ, the brain, which even laymen must know is the physical basis of the mind.

In our philosophical achievements of tracing the chain of psychologic forces which explain human behavior, we may become so fascinated and engrossed with verbalizations that show how mental illness results from distorted psychologic motivations that we scarce pay heed to other, perhaps physiochemical factors as yet undiscerned, leaving such research to obscure plodders in occasional scientific laboratories, and consigning the manifestations of such uninteresting focal brain lesions as those causing paralysis to our myopic and unimaginative brethren, the neurologists. But therein lies a danger. For if we are really convinced that the end and ultimate goal in psychiatry has been reached in purely psychological and psychodynamic explanations of human behavior with dominant emphasis on analytic psychotherapy then the doors to other avenues of investigation may be closed. Such danger exists because the direction of flow of energy and money into research channels will be guided by the prevailing theories and tenets concerning the origin of mental illness held by the leaders in psychiatry.

Psychiatry and neurology may yet effect reconciliation in the realm of the psychoses. Although the crude ideas of centers of psychologic functioning as in aphasia, apraxia and agnosia have undergone considerable modification in the light of modern neurophysiology, the general concept still has some pragmatic validity, and may find further extension in indications that regulation of consciousness as a whole may be somewhat localized in certain portions of the brain (witness the akinetic mutism of certain midbrain lesions, and pathologic sleep in encephalitic lesions about the third ventricle). An interesting speculation arises whether the ease of retreat into dreamy preoccupation in some schizophrenic states may not be facilitated by some differential impairment of consciousness, in part focal malfunctioning of the brain. Vivid hallucinations seem to be a manifestation *par excellence* of presumed toxic brain injury (as in delirium tremens), and may even occur from the effects of focal brain disease (uncinate fits). The catalepsy of schizophrenic catatonia bears many resemblances to certain clinical pictures caused by the toxic-inflammatory effects of the virus of epidemic encephalitis.

Although the content of hallucinations and delusions is surely influenced by previous psychogenic acquisitions and psychologic conditioning there remains still that dark and compelling possibility that the release of hallucinations and delusions, no matter what corruption was stored in the unconscious, may in many instances of functional psychosis be dependent on some metabolic or toxic factors hitherto undiscovered. Even pathologic alterations of mood, as in

*Presidential address read before a meeting of the Illinois Psychiatric Society, October 10, 1946.

the affective psychoses, may have some chemical basis, since no one can deny that in many normal individuals euphoria may be regularly induced by just the right amount of imbibing from the cup that cheers. The striking and lasting amelioration of depression in involutional melancholia by the use of electroshock therapy alone without a whit of formal psychotherapy argues that for all its possible psychogenic evolution and causation, some metabolic brain disorder must have been at least a contributing factor in the mental illness called involutional depression. And even in disorders of supposedly pure and simple psychogenic origin, as in inveterate hand washers, when we reach an impasse and ask the neurosurgeon to cut through the white core of the frontal lobes, we come once more into contact with clinical neurology. It is possible that selective ablation of certain portions of the frontal cortex will have the desired therapeutic effect without our having to cut blindly through the entire cable binding different cortical regions.

These random speculations are reenforced by the statistical data that nearly half of state hospital admissions (particularly for psychoses of geriatric significance, general paresis, alcoholism and its consequences) are for psychoses or reactions in which—by our own admission from the etiologic connotation of the classification of these disorders—some organic or toxic brain disease plays a role. And so, if we must acquiesce in our impending divorce from clinical neurology, at least before the bar of certification boards, because that old fellow was so insistent that we meet in cramming acquaintance with silly gitter cells and that little understood but conspicuous mammillo-thalamic tract of Vicq d'Azyr, let us require that the candidate for psychiatric certification glean a broader glimpse of basic and clinical neurology than is afforded the generan practitioner, so that he may at least smell the offending odor of gross organic brain disease when it crops up stealthily in the guise of mental illness.

The emergence of psychiatry from the cloisters of state institutions, the expansion of private practice of psychiatry and the commingling of psychiatry with the general stream of medicine has been slow, but was greatly facilitated by the application of physical methods to the treatment of psychoses. These physical methods shortened the duration of overt psychosis in many instances and brought the treatment of numerous cases of serious mental disease within the financial purview of the man in the street. Furthermore, these advances in therapy have demonstrated the urgent need for psychiatric facilities within general hospitals, a need which will probably be met by a process of evolution, but can be hastened if the psychiatric practitioner will shed his isolationism and take a more active part in the meetings of his local medical societies and hospital staffs.

The present surge of interest in psychosomatic medicine, which could more appropriately have been called psychophysiologic medicine, should bring psychiatry into closer rapport with general medicine. These important studies, concerned with such topics as the effects of emotion on the stomach or on the heart, will tend to reorient us a little away from ephasizing the individual as a whole, to some regard for its parts and some understanding of the physical mechanisms set into operation. Thereby we can meet other doctors on a common ground. But it is unfortunate that most of the high priests of psychosomatic medicine as a specialty couch their subject in what the general practitioner must regard as a fantastic language. We are properly very much concerned with the psychologic dynamisms in psychosomatic disease; but scientific medicine could benefit even further by greater emphasis on clinical and research studies to unravel the tangled skein of physiologic mechanisms whereby conflict or psychogenic stress is translated into disturbances of somatic function. For example, you may be able to unearth the apparent train of psychologic cause and effect in a hysterical woman which led to the development of a glove and stocking type of analgesia. Yet when I pierce the analgesic area with a pin without causing any apparent pain, I should

like to know: where is the block, what happened to the pain impulses which traveled up the peripheral nerves? Such embarrassing questions are often asked by intelligent referring physicians not specializing in psychiatry.

In the attempt to reach common ground in medicine our interest in classification of mental disorders should be intensified, rather than allowed to lapse. There is a tendency among the psychiatric school of dynamic psychologists to discard formal classification, to speak of conflict, regression, and in fact to get away from the concept of "mental disease" entirely, maintaining there are no such illnesses comparable to those encountered in general medicine. This attitude, as Hinsie points out, has served to promote the interest of psychoanalytic therapeusis, challenging these psychiatrists as therapists and not as diagnosticians, since psychoanalysis is the outgrowth of therapeutic ambition. However, I believe that this trend intensifies our drift out of the current of informed medicine and makes it difficult to evaluate the effectiveness of therapy.

I must admit that in state hospitals there is much discrepancy in classification, both with respect to the individual patient (often reclassified during course of same hospital admission or on subsequent admissions) and with regard to prevailing notions of the staff psychiatrists concerning what constitutes a given psychosis in different hospitals and in different parts of the country. Thus manic depressive psychosis is infrequently diagnosed at the Cook County Psychopathic Hospital and in Illinois generally, whereas in New York and in the East a considerably higher incidence is reported. I suspect that besides different racial composition of the population there is a differing viewpoint in classification.

It may be that schizophrenia and schizophrenic reactions encompass a basketful of mental illnesses of fundamentally differing causations. Classification in medical science, however, has for its ultimate basis segregation of etiologic subtypes, so that even though actual causes are not known, we are better able to approach etiologic solution. If our clinical group of illnesses is etiologically too heterogeneous, research studies on such groups produce conflicting results and lead to more confusion.

There is a great need of improved classification leading to better understanding of the mental reactions in the arteriosclerotic and involutional age. There are common involutional paranoid psychoses which had they occurred in the third decade of life would have been classified as paranoid schizophrenia. The designation psychosis with cerebral arteriosclerosis ordinarily connotes a psychotic reaction caused by arteriosclerosis, yet there is great discrepancy between the severity of the psychotic reaction and visible damage in the brain in many of these cases, and conversely, extensive cerebral arteriosclerotic damage may be found at necropsy in individuals whose behavior was considered normal. Not infrequently we encounter episodic psychotic reactions of a schizophrenic pattern in arteriosclerotic and older individuals. The inference might well be drawn that what causes schizophrenia may also produce psychosis in older individuals.

In the classification of psychoneuroses, there is even greater lack of uniformity in current practice. Severity and chronicity of psychoneurotic reaction are not ordinarily included in classification and the diagnosis gives no clue concerning the relative influence of exogenous and endogenous factors in its production. The prepsychoneurotic personality is not included in most diagnostic classifications. We might well take cognizance, in our classification, of the standards set by the American Heart Association. Cardiologists classify heart disease on the basis of etiology (if known), anatomical change, physiologic diagnosis, functional capacity and therapeutic classification. We should continue in our efforts to evolve and generally adopt a workable, more meaningful psychiatric classification than is presently used.

It seems that in spite of oft repeated warnings we allow psychiatry to be overpublicized. The public simply clamors for psychiatric opinions, speculations and wonder stories.

Articles for lay publication are liable to create the misconception that psychiatry is synonymous with psychoanalysis. An article in a recent issue of Liberty Magazine, for example, explains that psychoanalysis in a given case requires from one to five years and costs from 1,000 to 25,000 dollars; and that anyone offering a much quicker or cheaper psychoanalysis, except as charity, may safely be labeled a quack. The inference might be drawn that psychiatrists who do not employ formal psychoanalysis are incompetent and, on the other hand, resentment may arise because this luxury trade, as Time Magazine calls it, is for all practical purposes available only for the well-to-do. It is perhaps not in the best interest of public service that the young psychiatrist desire to limit his practice of medicine to formal prolonged psychoanalysis of a relatively few individuals. A most encouraging movement among analysts is the growing practice of brief psychotherapy. The application of the many lessons gained from extended psychoanalytic procedures in briefer psychotherapeutic techniques will permit dissemination of these benefits to the man of ordinary economic stature, to whom we also owe some obligations as physicians.

Overselling of psychiatry is sometimes a consequence of its being overpublicized. Many of us have been faced with an impasse in the treatment of numerous cases of deep seated neuroses when we cannot select our cases for treatment. There are often socioeconomic problems among patients in the average economic level that for practical purposes are insoluble by the best isolated effort of the psychotherapist working from the pulpit of his downtown office chair. The same factors are often present in the complexity of living in competitive society which produce experimental neuroses in animals: the need for difficult discrimination, the effects of monotony, frustration and restraint, and the environmental conditions creating these factors may not be readily modifiable for a given patient.

Furthermore, irrespective of whether early psychic trauma and certain psychologic dynamisms, or constitutional somatic influences produced the final result, many of the more seriously ill psychoneurotic patients referred to us for examination and treatment already have a well crystallized personality make-up that renders them more susceptible to psychogenic stress and strain than the common run of man. The expansion of private as well as institutional facilities for child psychiatry may be able to prevent or retard such personality crystallization in many potential psychoneurotics. Even though the psychogenic factors can be unravelled by analysis of varying duration in most cases, we should continue to lend sympathetic encouragement to programs of research that seek to reveal a possible common physical or metabolic substrate which makes the psychoneurotic so susceptible to the slings and arrows of outrageous fortune. I am reminded of the preinsulin era when the well meaning professors of internal medicine computed diabetic diets with the help of higher mathematics, while their severely diabetic patients died of starvation and coma in spite of these learned incantations. Perhaps in the not too distant future our present ministrations in the therapy of the neuroses of largely endogenous origin may appear equally futile.

Psychiatry must look to the scientist as well as the clinician in a search for explanation of the etiology and pathogenesis of mental disorders. We must lend a receptive ear and give encouragement to the remarkable work being done in physiologic neuronography, electroencephalography and most important of all, metabolic and biochemical research in the psychoses. The objective techniques of clinical psychology (psychometry, Rorshach test, personality inventories etc., with their concepts of statistical quantitative evaluation) are to be commended for having introduced more or less objectivity into a field of practice suffering from too much subjectivity. Above all, however, we should sense and feel our identity with all of medicine and admit that more could be known about mental disorders if we are to replace the priest in their management, and if we are to augment our science so that it may become more nearly commensurate with our art.

29 EAST MADISON STREET.

Proposal for Creation of Small, Urbanly Located State Hospitals

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It is obviously true that no plan designed to improve the hospital care of psychiatric patients can be formulated on one simple change alone. The present inadequate standard of care for the majority of those hospitalized for mental illness is subject to criticism from many points of view. Correction of any individual defect resulting from such critical appraisal would not change the general picture a great deal. Thus, one might speak of personnel inadequacies, of overcrowding, of the lack of therapy, of the unvaried and frequently unpalatable dietary, of the lack of recreational and occupational facilities, and so on. The list could be extended infinitely and plans advanced to correct each individual ill.

Although a number of administrators and staff physicians have accepted the custodial approach to the care of their patients as inevitable or, even worse, without self-criticism, there still exists a group of physicians who are dissatisfied and who have been impelled to remedy certain situations in order to give to their patients better care in keeping with their own conscientious dictates. That these efforts, even when pursued vigorously, have failed to scratch the surface in dealing with the problem is a fact the details of which will be considered in the description of the plan proposed here.

It is the main thesis of this paper that in the concept of caring for patients in huge, rurally located state hospitals exists the deterrent to sensible and necessary change. Let us briefly review the data. According to a recent Census of Mental Hospitals published by the U. S. Government Printing Office, 97.8 per cent of hospitalized psychiatric patients are in public institutions. There are 179 state hospitals and it is in these institutions that 86 per cent of all the patients are cared for. In 154 of them, or 95 per cent, the population per hospital ranges between 1000 and over 9000. It is apparent, then, from these few figures that the majority of hospitalized psychiatric patients are being cared for in large state institutions.

In his review of the history of American mental hospitals, Hamilton stated: "In 1851 some propositions on construction were formulated by Dr. Kirkbride and were adopted unanimously (by the founders of the American Psychiatric Association). They set a limit of two hundred and fifty beds per hospital, with the purpose of keeping the number of patients within the scope of the superintendent's capacity for adequate knowledge and treatment of each patient. In those days the superintendent was personally responsible for everything that was done to and for the patient. . . . Limitation on the size of a hospital has been the subject of continual debate, in the Association, in state bureaus, and in the architects' offices. The limit originally proposed by the association was raised to six hundred beds in the year 1866. The opinion of five of those voting had not changed, but the other nine were persuaded either from personal conviction or from their interpretation of the course of events that it would be better to accept as a maximum the size that Utica was soon to reach rather than leave the matter without a pronouncement."

What has happened to Dr. Kirkbride's proposal in the years that followed its publication? As Hamilton implied, the ideal goal of patient restriction was relinquished as more and more patients were admitted to already existing institutions. It appears that eventually many legislators and administrators began to accept the large institution as proper, even planning new hospitals to house as many as from 6000 to 10,000 patients. The belief arose in some quarters that it was unnecessary for the superintendent to know the patients individually. His function was primarily one of organization and coordination and, if he chose his staff

wisely, he could rely on the men of his choosing to do the necessary psychiatric work.

The legislators found it convenient to enlarge existing institutions in the mistaken belief that current facilities could be stretched to accommodate the increasing population. Hamilton pointed to the specious reasoning behind this procedure. Equipment soon wore out from overuse and had to be replaced on a larger scale. Money was saved by the failure to increase the number of personnel in proportion to the growing patient population, but the standard of care was thus lowered. It is no exaggeration to say that many state hospital patients are so devoid of personal identity by virtue of the large number crowded together under the care of one physician that only a small percentage of them are known to him by name alone, to say nothing of personal data. The same is true of attendants. I have seen attendants inquire of other patients the identity of one whose very name was unknown to them.

Considering the usual rural location of most state hospitals, it is not difficult to see why so many people refer to the process of admission to such a hospital in the universally similar phrase of "putting the patient away." The rurally situated hospital has been so located for the supposed benefit to society rather than for the welfare of the patient. Psychiatric patients differ from others in that their behavior is frequently socially unacceptable. There is little doubt that the original lunatic asylums were designed to facilitate the removal of these difficult people from society with little regard for the patient who was considered "possessed" or different in kind from other people. Surely, in the present state of our psychiatric knowledge, we know better than this; yet we still place more emphasis on maintaining the tranquil state of the community than on trying to help the patient back to a normal or comfortable place in society.

The appraisal of the state hospitals' defections has been purposely limited in the preceding remarks. It is the writer's belief that little can come of "exposing the existing evils" without offering a constructive alternative.

THE PLAN

I believe that the first step in laying the groundwork for improved hospital care of psychiatric patients is to stop the erection of huge hospitals and to stop the enlargement of those already in existence. For reasons that will follow I propose the revival of Dr. Kirkbride's limitation of the capacity of any individual psychiatric hospital to 250 beds. About 125 patients could be admitted to such a newly constructed hospital from one of the larger neighboring state hospitals. The other 125 could be admitted from the usual sources. When full capacity was reached, the number of admissions could be so arranged that their rate would not exceed the rate of paroles or discharges. Other hospitals could then be constructed on a similar basis, eventually decreasing the number of large hospitals.

It is important, for reasons that will follow, that the newly-constructed hospital be confined to the largest community in the area which it is designed to serve.

The question of providing the personnel for such a hospital may now be considered. In this regard it would be wise to adopt in considerable measure the policies of the general hospital. When state hospitals were first erected it was necessary to find a number of men who would devote their full time and effort to institutional work. Private practice in psychiatry was virtually non-existent and the psychiatrist and institutional practitioner were necessarily one. With our advancing knowledge and moulding of our specialty, an increasing number of private practitioners have arisen and are now to be found in all of the principal communities in the country. These men practice without the type of hospital facilities afforded to specialists in other fields and it is conceivable that, as other specialists have done, they would devote some of their time to hospital duties in return for the benefits they might derive from such a connection as well as from their sense of ethical obligation to perform such duties.

Psychiatric interneships could be created

The hospital would be benefited by the addition of youthful, energetic young men aspiring to obtain qualification in their chosen specialty. With proper educational facilities to guide them, they would derive a mutual benefit from giving their services to the hospital.

Medical students, acting as clinical clerks, could relieve the psychiatrist from the necessary, but time-consuming, task of keeping records. Of course these students could be used only in those areas having medical schools.

The hospital could be under the supervision of a psychiatrist who has been accredited by the American Board of Psychiatry and Neurology. This man, nominally the superintendent, would need one assistant, a person similarly qualified whose goal it would be eventually to attain the position of superintendent. Thus, with two psychiatrists, aided by attending and resident physicians and students, an adequate medical personnel could be maintained at a cost that would not be prohibitive.

Outpatient clinics could be conducted for the follow-up study and therapy of paroled patients as well as for the institution of proper psychiatric care in the case of non-hospitalized patients. These clinics could be staffed by the attending and resident physicians.

Similar to the practice of general hospitals, the nursing care could be given by registered nurses, working both in private and general duty capacity, and they might be assisted by student nurses and attendants.

Each hospital would require the facilities of a clinical laboratory, an occupational therapy department, a physiotherapy and hydrotherapy unit, a social service department and a psychological department. It might be possible to centralize some of these services to render assistance to several of the small hospitals. It might be possible, for example, for one pathologist and one clinical laboratory to function for the service of more than one hospital. Nor would every small psychiatric hospital require the facilities of a fully equipped operating room. Their patients might receive surgical care, when necessary, either in a nearby general hospital or in one psychiatric hospital in the community in which the care of intercurrent medical and surgical conditions could be emphasized. Medical care of a non-psychiatric nature could be handled by private or service facilities, depending on the circumstances in the individual case.

ADVANTAGES OF THE PLAN

Having arbitrarily outlined a program of drastic change in the construction and management of hospitals, it now follows that the concrete advantages deriving from such change should be discussed. These advantages, as I view them, could be many and varied. For purposes of organizing the material they will be considered under the headings of (1) Advantages to the Patient, (2) Advantages to the Profession, and (3) Advantages to Society.

Advantages to the Patient

As has already been mentioned, the largest percentage of state hospital patients receive custodial care chiefly. It has been said that the main trouble with most mental hospitals is the absence of mental treatment. Whatever our psychiatric philosophy may be, there is little question in the minds of most of us that psychotherapy is one of our most valuable methods of approach. The nature of this psychotherapy varies within certain limits, from the searching, intensive and interpretive psychoanalytic point of view to the more superficial state of rapport with the utilization of such media as reassurance, suggestion, re-education and the like. But the fundamental consideration in the psychotherapeutic relation remains to a large degree what the analyst refers to as transference. Call it that, or rapport, or a sympathetic and understanding relation between psychiatrist and patient, the fact remains that benefit will result to many patients through its use.

Psychotherapy in this sense is practically non-existent in most state hospitals. Why? There are several reasons. Probably the most important of these is the disproportionate ratio of patients to physicians. The psychiatrist who often has over 500 patients under his care, who is expected to administrate the details of their physical welfare, to

keep adequate records, to answer the inquiries of relatives, to work up new cases and to do many other tasks, can hardly be expected to have any time left for more than a brief walk through his wards once a day. More physicians could be added to the state hospital staff but one wonders where they would all come from and what the legislators' attitude would be to the increased expenditure that their employment would occasion. Many men interested in becoming psychiatrists are hesitant to accept a position of staff physician in a state hospital since that job is looked down upon by many competent authorities. The serious young man does not want to add himself to the rank and file of custodians. He prefers to look forward to private practice which is more stimulating, more the practice of his profession and less the assuming of the duties of a warden, albeit a benevolent one. So he either applies to one of the so-called psychopathic hospitals, which are run to a degree along the lines suggested in this paper, or he accepts a state hospital job with the provision in his own mind that he will get out as soon as he has acquired sufficient knowledge of his specialty. The man who remains behind indefinitely in the state hospital is often either the non-progressive individual or the one who has attained the rank of clinical director or superintendent.

Even if enough young men were interested to enter state hospital psychiatry as it now exists, one feels certain that the budget-minded legislators would not make adequate appropriations for their employment.

In the smaller hospital set-up, it seems that a more intimate relationship between doctor and patient could exist. Since such a hospital would act as a training center, the services of resident physicians and psychiatric internes could be utilized. Further, in those communities having medical schools, the students could help considerably from the psychotherapeutic point of view. Attending physicians could serve in the capacity of adding more medical personnel for purposes of direct therapy as well as for the function of training the residents. Of course more full time men per patient would be required under such a program. But if such an approach led to the rehabilitation of more patients and their return to society as useful and wanted individuals, certainly such an increase in appropriations for medical care would pay dividends in the long run. If one were to count up the expense involved in the custodial care of a patient over many years, it would be apparent that his early return to society by more energetic measures would result in a saving that could be applied to the employment of the extra physicians needed to make this possible.

There are many patients in state hospitals whose families would be glad to have their medical care managed by a private psychiatrist, but who cannot because of the usual isolationist set-up of the hospital. How many more patients could receive treatment if some facility for private care could be organized?

As the matter now stands, the main therapeutic effort in state hospitals is through the so-called somatic modalities. The patient, when he is admitted, is given his chance in a number of hospitals with insulin or convulsive therapy. If he improves enough through its use he is paroled; if not, he is sent to a "chronic building" and allowed to await "spontaneous improvement" if God be kind and so disposed to effect this change. Let it be understood here that I am very much in favor of the use of somatic methods. I have employed insulin (both deep and sub-shock techniques), convulsive therapy (metrazol and electroshock), continuous narcosis, fever therapy and prefrontal lobotomy. And I have seen real and lasting benefit in many cases so treated. As a matter of fact, I have been instrumental in arranging for so-called maintenance therapy in a number of patients both with sub-shock insulin and electroshock therapies. By this I mean that patients who have shown improvement by either of these modalities were paroled from the hospital to continue the treatment at home with a privately practicing psychiatrist. And I feel that a number of these patients would never have reached this state of improvement without such therapy. But I have been honest enough to my own self to admit that some of the patients treated

by shock methods might have profited more either by psychotherapy or by a combination of somatic and psychologic therapies. Frankly, I did not have the latter to offer them for reasons that have already been advanced.

It is therefore obvious that in the setting of a small urban hospital, better and more individual medical care, with appropriate follow-up extramural care, could be given to patients.

The patient who leaves the hospital usually needs further psychiatric treatment. Some hospitals forget about their paroled or discharged patients until they are returned from parole or readmitted. Others maintain a half-hearted follow-up system, offering brief interviews to paroled patients, more for the sake of the record than for the benefit of the patient. None that I know of has an adequate system in which psychotherapy, or for that matter any other kind of therapy, is available to the paroled patient to help keep him at home and at his job.

Furthermore, the state hospital system has been neglectful of its duty in the maintenance of a mental hygiene program for the community. Much good is being done by the various mental hygiene societies throughout the country, but their efforts are limited. Certain it is that they handle a pitifully small fraction of the psychiatric problems in their communities. Where do the bulk of the psychoneurotic patients get their treatment? Either in the general practitioner's office or in the medical dispensary. In both places they are usually unwanted, frequently being referred to as "damned neurotics," and their treatment with sedative drugs and little understanding of their problems is the net result of the professional relationship. Hospitals, such as are proposed in this paper, could conduct psychiatric outpatient departments, offering to help the many who never would get to see a psychiatrist otherwise unless their condition progressed to the point where commitment becomes necessary. I believe that the rate of admissions could be appreciably lowered through the organization of such clinics, in which verbal psychotherapy as well as certain somatic therapies could be conducted on an outpatient basis.

As I mentioned before, a number of patients who improved with somatic therapies were able to stay at home, in an improved state, by receiving these treatments from private psychiatrists. There have been a number, however, who could not avail themselves of this benefit because it was financially impossible for them to manage such a program. To patients who could live comfortably at home by receiving such therapy, the outpatient clinic of a small psychiatric hospital could offer help, regardless of the patient's financial circumstances.

What has been said for the necessity of more intensive care of patients by physicians applies as well to care by nurses, attendants and special therapists. In a small, urban psychiatric hospital I believe it would be easier to obtain more such help than in the presently constituted type of hospital. Student nurses could be used to good advantage. Private duty and general duty nurses would be more willing to work in a psychiatric hospital that was organized along well known and unfeared general hospital patterns.

In hospitals located in large cities having colleges and universities, mutual benefit could be derived by an association with the department of psychology in the nearest university. The student of psychology would have first hand contact with the patient and the hospital would benefit by having an additional number of workers in the psychological field, this benefit ultimately acting for the patient's betterment.

Another important advantage to the patient might be mentioned here. In many states, acute psychiatric emergencies must be handled for a shorter or longer period in the local jail, while arrangements are being made for the patient's admission to an outlying state hospital. All of us deplore this situation, but it exists widely. Furthermore, there is a growing movement for a better understanding of the alcoholic and an adequate plan for his hospital care. Here again the police departments offer the patient the major part of his therapy, a therapy that we must admit is not preceded by an ade-

quate training and background of the therapist. General hospitals have largely been unwilling to burden themselves with alcoholic patients. In my personal experience I have seen many patients who, once hospitalized and de-alcoholized, were able to retain sobriety through joining the organization known as Alcoholics Anonymous. I do not propose to state that all alcoholics are benefited by that organization but I do believe that adequate hospitalization of the alcoholic, with psychotherapeutic help—be it individual or group therapy, will result in a larger percentage of abstaining alcoholics than that of which we can now boast.

The police station and local jail belong to antiquity with regard to the housing of psychiatric patients. Hospitals such as are here proposed would help eliminate the care of the mentally ill, for however brief a period, in penal and other law enforcing institutions.

Advantages to the Profession

State hospital physicians have been and still are to a large extent isolationist in their attitude. They reign in their own domain with little association and understanding of and by the rest of the medical profession.

Let us consider a concrete example. A privately practicing psychiatrist is called upon in consultation by a general practitioner whose patient is showing psychotic symptoms. The psychiatrist examines the patient and decides, let us say, that he is experiencing a schizophrenic reaction. Because of the nature of the patient's symptoms, hospital treatment is considered necessary. The family may then decide between sending the patient to a private or a state hospital. Since the cost of private hospitalization is prohibitive to the great majority of people, it is necessary to send the patient to a state hospital. Commitment procedures are followed and the patient is hospitalized. Thus ends the contact between patient and private physician, family doctor and psychiatrist alike. From that point on, the patient is exclusively cared for by the staff of the hospital. I have known of some cases in which the patient's family have wanted the private psychiatrist to continue treating the patient, but this has been impossible because of hospital policy as well as the distant location of the hospital itself. So the patient finds himself in a setting not of his own choosing, cared for by doctors who have been selected neither by himself nor his family.

Suppose there existed a small state hospital in an urban situation. A properly qualified psychiatrist, with staff privileges, could have his patient admitted to an institution whose fees were not beyond his means. Wth the help of the resident staff, he could continue to care for the patient, making the transition from home to hospital residence easier for his patient. The amount of time he devoted to that patient would be just that much time spared the full time staff member, and that time could be utilized by the staff physician for another patient who could not afford such private care.

In return for the hospital privilege given him, the private psychiatrist would be expected to devote some of his time to the care of certain hospital functions, such as ward and outpatient clinic work. How much better is such a situation than the one that now prevails. The private practitioner and the state hospital psychiatrist would be working together rather than alone and with much greater effectiveness. Under present circumstances the private psychiatrist is disdainful of the state hospital psychiatrist and frequently with just cause. In return, a number of state hospital men, whose reaction would of necessity be a defensive one, remain aloof from the activities of the group of private practitioners, walling themselves off in their own castle, with the feeling that they are masters in their own house and want help from no outsiders. I believe that the plan proposed here would help tear down the barriers now existing between the two groups.

And what of the rest of the medical practitioners? Although it is true that psychiatry is slowly coming into its own as a recognized and accepted specialty, one too frequently hears medical practitioners referring to psychiatrists as "nut doctors" and questioning the mental balance of those who follow the specialty of psychiatry. Some-

times such remarks are made under the guise of facetiousness but frequently, with all seriousness, men in other specialties, who know very little of psychiatric progress, question the value of mental treatment. Not all of this lack of understanding may be attributed to inadequate teaching of psychiatry in the medical schools. We, ourselves, are to blame for much of it. If the state hospital psychiatrists have isolated themselves from their privately practicing colleagues, how much greater is their isolation from men in other fields of medicine? These men, not knowing or understanding us, are inclined, and not without some justification, to be skeptical of our procedures.

If our psychiatric hospitals were located within the urban confines of the communities they served, as are hospitals devoted to the care of medical and surgical cases, it follows that less skepticism would exist, since psychiatric techniques would become less of a mystery and more understandable to the average practitioner. Furthermore, there could be free interchange of consultant practice between the psychiatrist and men in other fields.

In the present state of organization, the state hospital pschiatrist is also internist, surgeon (at least for many minor surgical procedures), gynecologist, otolaryngologist and even obstetrician at times. How well he performs these extra-psychiatric duties is sometimes a matter of opinion. The necessity and justification for such practice in fields that are foreign to his trainlng and background again can be found in the isolation of state hospital practice. If the state hospital took its place with other medical institutions, not only would the patients receive better care through the services of non-psychiatric consultants, but a closer relationship would result from physicians in all specialties working together.

Aside from this aspect of better interprofessional relationship, there is another matter that merits discussion. In the large state hospital there are often as many as 20 to 30 physicians on the staff. Obviously there can be only one superintendent and one assistant superintendent or clinical director. The rest of the staff generally con tents itself with pursuing routine duties in positions in which remuneration is inadequate and hope for advancement in a reasonable time small. Little wonder there is, therefore, that the more active and progressive young men leave the state service when they feel they have received the training they started out to get. Many men who remain in subordinate positions in state hospitals over a period of many years lack the push that is necessary in keeping up with an advancing knowledge in one's specialty. As years go on, many of these staff men become "institutionalized," content with a protected, non-competitive existence; afraid to re-establish themselves in a more active situation where rivalry and activity is greater. As a prominent psychiatrist occupying a high ranking administrative office once said: "Get them young; let them have a lot of babies in rapid succession; and you have them for life."

Under the proposed situation, such men could not exist in practice, nor would there be any necessity for their making such a choice. With many small hospitals in existence more high positions would be available to those men who were interested in institutional practice. And they could generally find a vacancy at a younger age. Some of the psychiatric residents would doubtless prefer private practice, but even in such a situation they could continue to render service to the hospital.

One may ask the question, "Is it an enviable goal to become the superintendent of a 4000 bed hospital?" In general, the answer is that in assuming an administrative office of such size, one must pay the penalty of losing personal touch with the patients. The success of attaining such a position imposes on the physician the necessity of supervising and coordinating the conflicting opinions and attitudes of those whose station is below his; of playing politics for the sake of his hospital's improvement and welfare; of arbitrating and pacifying all persons in the numberless disputes that arise between relatives and personnel; to the extent that he no longer feels himself a medical practitioner,

which he indeed ceases to be. Now there are some men who are satisfied with such professional pursuits, but many a superintendent will tell you that he looks back to the good old days when he had the opportunity of being a psychiatrist and not an administrator. Such is the price they pay for success.

In the smaller hospital, however, the superintendent would be in a position to know his patients and their problems. His administrative tasks would not be so huge that they would rob him of his opportunity to practice psychiatry. In such a situation, fewer good clinical men would be lost to clinical practice because they were good enough to merit advancement.

Competition between hospitals, and open inspection by the rest of the profession, would operate to keep the standards of such hospitals at a high level.

Advantages to Society

We cannot preach against the stigma of mental illness and yet betray by our action that we are not completely convinced ourselves. If we tell the public through popular writing, talks at Parent-Teacher's meetings, in churches, women's clubs, civic organizations and so on, that the day has come to consider mental illness in the same category with other ailments, how can we explain the fact that we ourselves are concealing our patients from public view? In the selection and maintaining of rural locations for our hospitals, we are admitting in the most obvious way that reason still exists for considering a psychotic relative a skeleton in the family closet.

And the truth of the matter is that we are only fooling ourselves if we believe that the few talks and publications have greatly changed the attitude of any considerable number of people. I have had much contact with the relatives of psychotic patients. Not a few harbor manifest guilt feelings about the hospitalization procedure. "We kept him as long as we could," one hears, "and then he became so uncontrollable we had to put him away." When the patient improves and is ready to return to society, one frequently hears the patient and members of his family discussing the best possible way to conceal the fact that the patient has been missing from his usual habitat for a number of weeks or months. Does this represent the disappearance of the stigma?

If, however, we *acted* in such a manner to indicate that one should not feel ashamed of mental illness, a change in popular attitude might occur. If, by our action, a patient would be willing to accept treatment from a psychiatrist, who called himself a psychiatrist and not a neurologist, then we might claim more honestly to have effected a successful educational mission.

I believe that the construction of our mental hospitals in urban locations will help. I do not mean to equivocate by allowing that a suburban site would be satisfactory. The hospitals must be situated much in the same places where one usually finds general hospitals. If we can take the stand in our own minds that we have nothing to hide and proceed to act according to that conviction, certainly others will be convinced of the truth of the matter. Until the day that we act on a large scale in this way, the psychotic patient will continue to be a side-show freak whose state arouses the curiosity of the crowd.

Once the public learns through more intimate contact with psychiatric hospitals that all mental patients are not "raving maniacs" then will the psychiatric hospital benefit still further. Fear of psychotic patients, begot through ignorance rather than understanding, will decrease. More physicians, nurses, attendants and other workers will become attracted to the field and an adequate personnel will begin to form. In an urbanly located hospital, workers will not only be attracted by losing their superstitions about mental illness, but will also apply for work since such employment will not necessitate the giving up of home and life in the city to go to live in the country in a strange and unpredictable atmosphere. Then we shall have enough workers to make an eight hour day possible for all.

When patients learn that psychiatric illness must be treated in a psychiatric hospital or clinic, usually by verbal techniques, and not in medical clinics with treatment

consisting of phenobarbital and bromides, then will a further change of attitude occur. Until we offer a sufficient number of such clinics with convincingly satisfactory care to those who need them, there will be no change in the present situation. If we find it difficult to convince patients of emotional causes for their illness, if we struggle to point out to them that all medical cures are not contained in a bottle of pills or red liquid or the surgeon's knife, we must be patient. The medical profession, organically minded as it has been and still is in many quarters, is responsible for this lack of understanding by the average layman. When the psychiatrist stops talking about what he has to offer and actually provides his services for the thousands that need it, then will doctors and patients alike change their opinion about the organic causation of all illness.

Society will further benefit from the erection of hospitals as outlined here through the educational facilities that such institutions will be able to offer. In general medicine, the peptic ulcer patients, those suffering from cardiac illness or kidney disease, and so on, are not tucked away in some inaccessible place where few students may observe them. They are seen in clinics, in conferences, in lecture demonstrations, and on the wards. They provide the background for the future doctor's point of view. The medical student may hear an increasing number of words on psychogenic factors in illness but until he has learned to observe these things for himself, directly from contact with the patient, he will still lean to the preponderantly organic point of view. When we no longer bury our psychotic patients from the inquiring gaze of those who should be taught, we will take a long stride in the right direction.

Finally we take up the matter of psychiatric research. Like workers in other branches of medical endeavor, we are willing to admit the large gaps in our knowledge of mental illness. Some would have it that we are completely ignorant of the cause of mental illness, pointing to the thousands who are chronic hospital residents in testimony of their claim. Others would pretend that Freud and his followers have said the last word on the causation of mental illness and the only reason why all psychiatric patients do not recover is that there are not enough analysts to go around. Obviously, the truth lies somewhere between these extremes.

It is true, I believe, that we have a considerable body of useful knowledge as a result of the contribution of the psychoanalytic school of thought. This understanding of psychological motivations is still in the process of revision. Some of Freud's original interpretations have now been discarded by many orthodox analysts and new concepts have been added. Further psychoanalytic research is necessary.

Although research has been conducted along the lines of structural and physiologic changes to explain the etiologic background of mental illness, real progress has only been made in the case of the so-called organic psychoses. The syphilitic cause of general paresis, the structural changes in the brains of senile patients, and the vitamin deficiency underlying the dementia of pellagra have added to a more thorough understanding of these psychoses. But how much does the factor of disturbed physiology and chemistry play in the causation of schizophrenia, of manic depressive psychosis and of involutional melancholia? And of the psychoneuroses? Why should the inhalation of a mixture of carbon dioxide and oxygen, or the intravenous injection of certain barbiturates, or insulin or convulsive therapies, produce such dramatic improvement, either temporary or longer lasting? The truth of the matter is that we don't know and we are not doing much to find out.

One will find precious little research conducted in our state hospitals. The reason for this is apparent. It is still the prevailing philosophy that it is more economical to offer bare subsistence in the form of custodial care to thousands of patients, year in and year out, than it is to provide money and facilities to learn more about the nature of such illness. There would probably be no immediate return from such an investment, but in the long range view such expenditure would result in future economy and in the return to social usefulness of

many otherwise destined to interminable illness.

Why don't the state hospital doctors do this needed research now? Some do, but only in their spare and leisure time. Administrative and clinical work must be done and the limitation of time alone makes the performance of these tasks desultory and incomplete. Research cannot be successfully pursued when sandwiched in between an already overcrowded schedule of work.

Most of the research done in other specialities of medicine is conducted in a collegiate setting. This is a highly satisfactory background since the coordinated efforts of the anatomist, chemist, physiologist, pathologist, clinician and others afford the most complete answer to the complex problems that are studied. Most of our state hospitals have no connections with the higher institutions of learning and research. Again isolationism has prevented the mental hospital from assuming a progressive attitude that other specialities enjoy.

In the type of hospital that is proposed in this paper, such affiliation would be an integral part of its existence, at least in those communities that were large enough to have universities and medical schools. Students of abnormal psychology, students of social work, of occupational therapy and of medicine in all of its phases could work hand in hand with the state hospital superintendent. Research could be effected at a much smaller cost than would be necessary were research facilities and workers brought to the state hospital as it is now constituted.

CONCLUSION

A plan is offered in which the basic principle is to gradually build up a system of small 250 bed hospitals located in large cities and working in harmony with other medical and scientific institutions. The time is ideal for such a change at present. Owing to war conditions, building programs have been curtailed during the past few years. Post-war construction plans have been formulated by most of the state hospitals. Most of these, in all probability, call for enlargement of existing institutions and the establishment of other similarly large hospitals. Before such building plans progress on a large scale, it might be wise to consider the plan offered in this paper.

What we all want is a situation in which the largest number of people can be restored to their former places in society, not a white elephant of colossal structure dedicated to the perpetuation of the function of safely removing the offending members of society and keeping them isolated until death terminates their misery. I am not reviving the old cult of curability when I say that more patients can be helped than are now receiving psychiatric assistance.

In a hospital such as I propose, with intensive work by the psychiatrist, nurse, social worker, psychologist, and other therapists, primarily oriented in the task of getting the patient out of hospital, with provision for adequate extramural care, there will have to be a decrease in the number of hospital residents. Gone are the days when it was considered good practice to keep a patient hospitalized until every vestige of delusional thought disappeared. Progressive workers have already discovered that through coordination of activities between psychiatrist and social worker, many patients can resume their places in a society that, under older standards, would be barred to them.

With this philosophy of psychiatric activity, without abject servitude to any one method of psychiatric treatment, and with education and research in ascendant progress, the present century may well serve as a point of departure for the divorce of psychiatry from the old lunatic asylum standards.